

Attachment A: Description of Firm Transmission Rights (FTRs) - Term
Sheet
[9/06/00]

The intent of this paper is to outline areas of agreement and open issues by the RTO-West Congestion Management Workgroup in defining Firm Transmission Rights (FTRs).

It has been agreed that use of Firm Transmission Rights (FTRs) is the preferred model for the management of transmission congestion in the Pacific Northwest. The purpose of FTR's is to encourage the efficient use of transmission assets through economic incentives. For instance, if a constraint emerged on a particular flowpath, it would be seen via the market price of FTRs. This would provide an economic incentive for Scheduling Coordinators to adjust their schedules and free up some transmission capacity that could allow higher value transactions to take place. Participants in RTO West are depending on the market for FTRs (and recallable and non-firm rights as well) to provide economic incentives for market participants and the RTO to actively manage congestion.

However, while there has been theoretical agreement on the use of FTRs, there has been some controversy regarding certain elements of implementation. Much of the discussion arises because of differing incentives of the participants. The following discussion begins with a review of the assumptions that form the basis of the FTR proposal.

Assumptions

The following assumptions are necessary for this discussion, without which the proposal is rendered moot.

1. There must firm be transmission rights available for sale
2. Rights are defined on flowpaths
3. Physical transaction rights are the primary means for making a transaction across a flowpath
4. Transmission maintenance schedules are approved by the RTO on a year ahead basis and updated monthly using the NW Pool Outage Coordination process or a similar process.
Requests for moving or shortening planned maintenance schedules are approved by RTO with consent of all affected transmission users.

Open Issue: Need to investigate with Planning and Implementation WGs quality of plans associated with providing annual maintenance schedules.

5. Existing transmission owners have been adequately compensated with rights and/or value for value exchanges

6. There is an active, liquid secondary market in FTRs

These assumptions are critical to the following proposal(s).

The Proposal

The Workgroup recommends that Firm (Physical) Transmission Rights (FTRs) be sold in blocks from a single hour to an annual one-year strip of rights (8760 FTRs) across a specific flowpath. The FTRs represents firm rights to a designated transmission capacity on a specific flowpath for all hours in a one-year period. The FTRs will be clearly defined in a Term Sheet for each flowpath with the goal to create a product that is sufficiently firm to be of value to the initial rights holder and sufficiently defined that it be easily tradable in the secondary market. Of primary importance to creating a valuable, tradable market instrument is its degree of firmness.

The concept of firmness will be modified by the Term Sheet's inclusion of a planned maintenance schedule for the year, assuming such maintenance would derate the FTR holders' rights. Participating Transmission Owners (PTOs) will submit these schedules to the RTO for approval once per year and they will be updated on a monthly basis. In response, buyers of the annual FTRs will adjust their bid prices to reflect the number of hours that the transmission capacity will be reduced due to maintenance.

There was general consensus around the issues contained in the Term Sheet shown below.

TERM SHEET

▶ Flowpath Specification

- Flowpath name/location
- Rated capacity schedule (TTC, TRM, Existing Firm Contracts, ATC)

▶ Transmission Right

- Size (MW)
- Term (beginning and end date)
- Direction of Flow
- Class (level of firmness per flowpath)
- Curtailment limits (reliability specifications)

▶ Additional Rights Description

- If your rights go unused by _____, the RTO may issue recallable rights
- If you exceed a threshold % ownership limit in ATC on any flowpath then you may be required to make a market.
- Buyback Provisions at market price for rights or counter-flow
- Exemptions for unpredictable events that will lead to de-rating of rights on a prorata basis for each flowpath.
- Right to resell

▶ Disclosures

- Planned outage schedule for next year on key and significant facilities that may exceed the commercial threshold.
- Historical emergency actions
- Flowpath/Rated Path Capacity history and planned additions
- Definition of probable states of the Grid and the associated FDFs and flowpath path ratings.

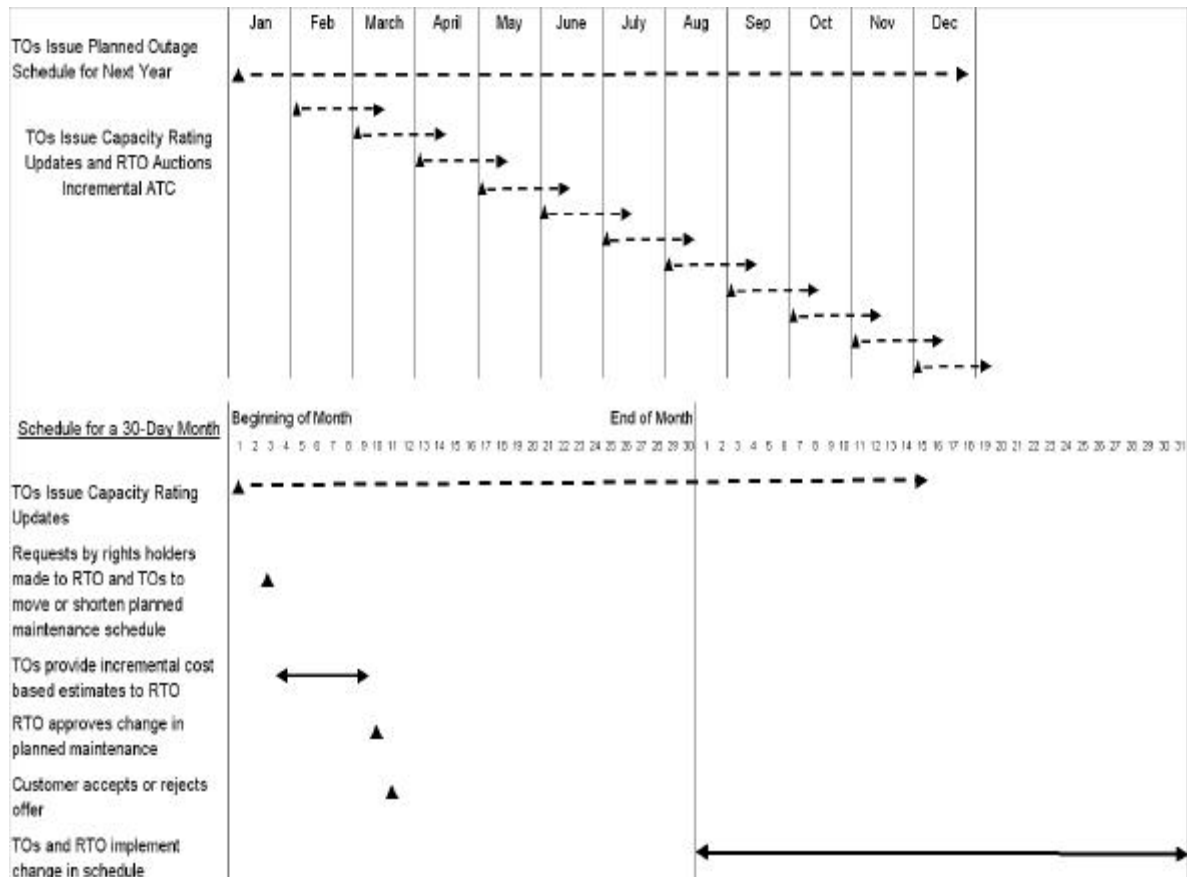
▶ Scheduled Actions

- Plans for future releases (month ahead, week ahead, day ahead)
- Capacity ratings updates every month for 45 days in advance.
- Date and time that Right will not be changed for planned or forced outages (4 hours before real time?)
- Date to notify the RTO and TOs of a request to move or shorten planned maintenance schedule.
- Within 1 week after the request to move or shorten schedule, TOs will provide cost estimates to RTO
- RTO approves changes in planned maintenance schedules and provides cost estimates to rights holder.

Within the Term Sheet, the next level of detail and associated procedures need to be addressed by the WG.

In addition to the Term Sheet, the working group discussed and developed a consensus around some of the necessary RTO actions required to create annual FTRs. This discussion is embodied in the table below. The top half of the Table below reflects the agreement that there will be a single annual auction by the RTO for FTR's on commercially significant flowpaths. As the PTO update their information on a monthly basis, the RTO would issue incremental FTR's made available by this process. The

bottom half of the table reflects a sub process that could occur within each of the monthly auctions. In this process, each of the existing rights holders could make a request of the PTO's to move or shorten their planned maintenance schedules. The PTO's would notify the rights holder of the cost of this action. If approved by the RTO with consent received from the effected rights holder, the planned maintenance schedule could be modified as soon as practicable. Is it assumed in this discussion that any change to a planned outage schedule has been coordinated with the region outage coordinator (e.g., NW Power Pool Outage Coordination Process).



In addition to annual FTRs, rights for shorter periods will be sold on a seasonal, monthly, weekly and daily basis.

Residual Congestion

Even in the event that all participants agree upon the details of FTR implementation, there remain practical differences between the commercial model and the RTO's operational model of the Grid. It is not reasonable to expect that the constraints of managing the physical system will exactly reflect the commercial model. For instance, a small line could be lost somewhere on the system, requiring instantaneous rebalancing of

loads, flows, and modifications of the flow distribution factors that will be used to translate and evaluate FTRs. To create liquidity, reduce market power and avoid prohibitive levels of transaction costs, these small commercially insignificant changes in the flow distribution factors will be managed by the RTO. We have described three different congestion management tools the RTO has to relieve residual congestion. They include:

- (i) Use of incremental and decremental bids for supply-side and demand-side resources;
- (ii) Purchase of counter-flow based rights from market participants;
- (iii) Buyback of rights.

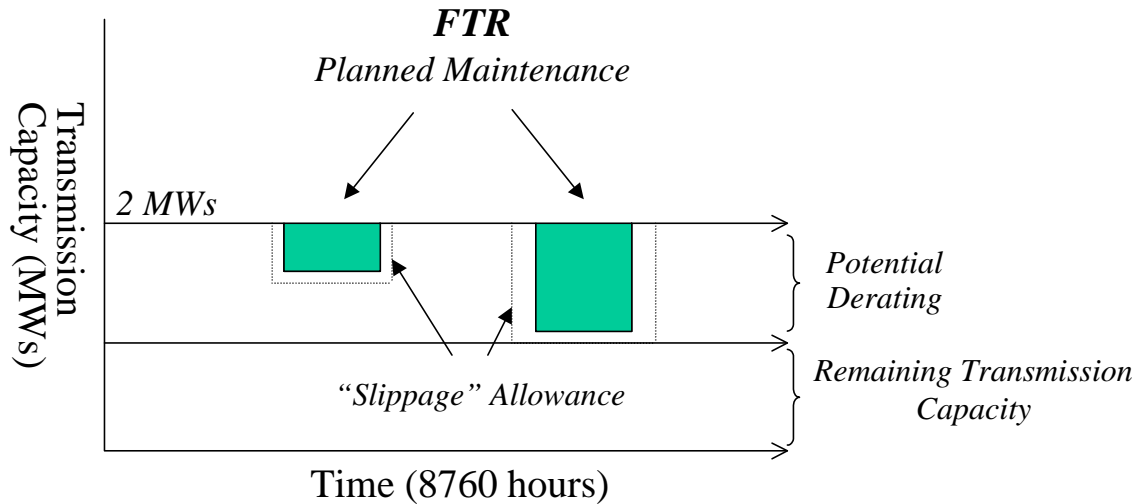
The costs of addressing residual congestion can be recovered through a general uplift charge passed on to all participants – “Socialization” of the cost.

Planned Maintenance: Schedule Moves, Changes or Slippage

As noted, FTR rights will be offered with full disclosure of down periods from scheduled maintenance for large construction and rebuild projects. The working group agreed that that these projects are known at least a year ahead and should be included in the Term sheet prior to the annual auction. In addition, the rights could carry an allowance for real-world slippage in the maintenance schedule – one or two days.

PTO's have no financial penalty associated with exceeding their obligations to comply with their planned maintenance schedules other than the loss of revenue from unavailable capacity and embarrassment for being late. Some PTOs, at their option, may guarantee the maintenance downtime is less than or equal to the schedule in the Term Sheet. For this guarantee, the Term Sheet will include the conditions and degree of compensation if the schedule is not met and the benefits that the PTO receives if the schedule is bettered, such as the right to sell any additional FTRs gained.. Additionally, some PTOs may implement Performance Based Rates (PBRs) that may include a guarantee to the firmness of the FTRs.

Some rights holders may want a guarantee for the firmness of FTRs beyond what is available within the Term Sheet. These rights holders can use external to the RTO processes to procure Insurance or some other financial mechanism to cover curtailment periods beyond what is documented within the Term Sheet.



Finally, a rights owner may request that the PTO move or shorten the maintenance schedule. The request would be made to the RTO, which would be forwarded to the PTO, who in turn would estimate the financial cost for the change (see chart above). If agreed, the rights owner would then be responsible for the financial consequences of the move.

1.

Unplanned Outages

Unplanned outages fall into two major categories: (1) Force majeure – system emergencies; and, (2) Other unplanned outages. Force majeure will generally be reserved for severe emergencies such as a major wildfire, declared by the RTO. “Other” outages, such as inclement weather or accidents are a much more difficult issue, requiring general consensus from the RTO members before progress is made. Below is a suggested proposal along with outstanding issues.

Force Majeure

As noted above, these are unplanned outages resulting from emergency events such as wildfires, ice storms or the like. The current proposal is to have a disinterested party (the RTO) designate a force majeure emergency. Essentially, when a declaration of Force Majeure is made the FTR holder bears the financial responsibility.

Key issue:

1. Definition, and criteria for designation of force majeure

Current proposal:

- (i.) Designation by RTO (disinterested party)
- (ii.) Financial obligations borne by FTR buyer

Other Unplanned Outages

A more contentious issue with RTO members is that of “unplanned outages” – those not falling under the heading of Force Majeure. These outages might result from a significant but not debilitating storm, accident or other event leading to “down time” on one or more flowpaths. Of particular importance is financial responsibility: does it lie with the FTR buyer, the Transmission Owner, or is it “Socialized” through an RTO fee?

Key issues:

1. Financial responsibility
2. Definition of Unplanned Outage vs. RTO responsibility for Residual Congestion

The WG is still addressing several issues within the term sheet proposal.

- Next level of detail that defines the components of “Unplanned Outages”
- The proposals below on how do you handle “unplanned outages”. The WG still needs to debate the proposed alternatives.

Proposal I (Buyer Beware)

There are two alternative approaches to handling the category of Other Unplanned Outages. The first is basically a “Buyer Beware” approach. In this case, the buyer shoulders the financial responsibility for unplanned outages on the purchased FTR. This would certainly increase the level of uncertainty (risk) associated with the right and should logically decrease the price a willing buyer would pay. The benefit of this approach is that it passes the financial responsibility for outages onto identifiable entities rather than spreading them across all participants. The costs are likely to be reflected in the purchase price of the instrument, and, given the terms of the FTR, *may* provide the buyer with a substitute product in non-firm transmission.

As the uncertainty associated with an FTR increases, the complexity of the purchase increases as well. A Buyer in this situation will be required to constantly monitor the status of the system and seek alternatives should an outage occur. This additional vigilance (overhead) increases the cost of ownership and may translate into reductions in FTR values. These additional transaction costs may be prohibitive for smaller market participants.

Key issues:

1. Financial responsibility
2. Definition of outage (force majeure and other unplanned outages)
3. “Firmness”/uncertainty of FTR
4. Value of FTR
5. Substitution of non-firm products

Current proposal:

1. RTO designates an outage
2. FTR holder bears lost income from outage

Proposal II (Socialization)

The second proposal essentially socializes the costs of keeping the FTR firm. In this case, all unplanned outages would be handled by the RTO through its toolkit. The FTR holder would operate as if there were no outage, and the cost to the RTO would be passed on to all participants through an uplift charge. The most difficult issue would be the definition of force majeure, since that cost would continue to be borne by the FTR Holder. Also, under this proposal, you would logically include both slippage and any other costs associated with planned maintenance, eliminating the need for an ADR dispute resolution process. The other side of this proposal is that RTO market participants shoulder all the costs of ensuring FTRs remain firm, including slippage and other maintenance misses.

Key issue:

1. Definition, and criteria for designation of force majeure

Current proposal:

- (i) RTO firms up FTR through toolkit
- (ii) Financial responsibility rests with RTO members for Other Outages only
- (iii) Socialize slippage and excessive delays for planned maintenance (eliminates the ADR process for that issue)
- (iv) Eliminates need for threshold residual congestion

Other alternatives such as Voluntary Socialization need to be addressed by the WG.
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